

MICHAEL FIELDS
AGRICULTURAL INSTITUTE



2024 **Annual Report**

MESSAGE FROM OUR BOARD PRESIDENT

Whether it's the bold flavors of baba ganoush from the Middle East, the comforting taste of southern fried chicken from the USA, or the rich spices of groundnut soup from Ghana: The one thing we all have in common is that we love food! **Since its founding in 1984, Michael Fields Agricultural Institute (MFAI) has been committed to creating farming systems that benefit everyone—building bridges across diverse communities and supporting the farmers and land stewards who nourish us.**

MFAI has become a trusted connector, linking government agencies, educational institutions, and urban communities with our state's hard working farmers. With a team of just 12, we're proud to support hundreds of landowners and managers across the Midwest. Our team's reach and impact are considerable, but with growth has come a set of new challenges. After the pandemic, we navigated a transition, with our former director retiring and the Board stepping in to find a new leader to guide our mission forward.

Under new leadership, we're now focused on updating our systems and programs to meet today's demands. With a renewed sense of purpose, the Board and staff are united in our mission to strengthen MFAI's impact for the future. Together, we are committed to driving sustainable change in the Midwest, bringing innovative solutions to the forefront of agriculture. Our programs empower farmers while protecting natural resources - building resilient food systems that benefit everyone.

So let's continue this journey together. We invite you to join us in this essential work: breaking bread, building bridges, and supporting those who grow the food we all share.

We look forward to seeing you soon,



Una D VanDuvall

Board Chair

Michael Fields Agricultural Institute

MESSAGE FROM OUR EXECUTIVE DIRECTOR

As I close out my first year as Executive Director, I am grateful for the opportunity to connect with so many of you—whether at field days, conferences, or virtual gatherings. One of the most rewarding parts of this role has been hearing your stories and learning about your unique contributions to agriculture in the Upper Midwest. In an incredibly complex time marked by technological change, political polarization, and environmental degradation, food can be a powerful force uniting communities.

This year, MFAI celebrates its 40th anniversary. When we began in 1984, only a handful of organizations in the Midwest focused on sustainable agriculture. Before the National Organic Program and the widespread acceptance of sustainable agriculture at the University of Wisconsin, researchers and advocates on our staff were exploring the practices that are now foundational to regenerative agriculture. **Even after all this time, we are still guided by a vision of agriculture that prioritizes people and promotes human and ecosystem health, food sovereignty, and justice.** We leverage research, education, and policy as vehicles of change; from exploring agronomic practices for alternative crops to fostering connections between underserved growers and critical policy discussions, our work reflects a commitment to people at every level.

In addition to a strategic planning process now underway, I've asked our team to look inward and strive to improve our technology, internal practices, and operations. **We're building a 21st-century organization to address 21st-century problems, from farm to fork.**

I feel the need to be honest—since the loss of our founder and largest contributor in 2018, MFAI has struggled financially. We have been fortunate to secure several large federal and other grants, which support a variety of projects, as you'll read about in the following pages. However, these grants only cover specific costs, and **if MFAI is to survive the forces of change, we need your help.** First, through a charitable donation. **Small gifts—\$5, \$10, \$25—are crucial as we work to meet rising costs and growing needs.** Second, by volunteering. Your skills in areas like fundraising, event coordination, land management, and administration can make a significant difference. To learn more about volunteering, please visit our website.

Thank you for your commitment and support,



Ryan P. Martin

Executive Director

Michael Fields Agricultural Institute



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Nurturing the Land **SERVING WOMEN LANDOWNERS**

Women landowners are a growing and important demographic influencing soil and water conservation.

The 2017 census recorded 38,509 female producers in Wisconsin, showing that women made up 34.9% of all producers in the state. Although the 2022 census puts the percentage at 35.5%, it also reflects a drop in the total number of farms and female producers. Traditionally, male producers have had higher rates of involvement in land use and crop/livestock decisions. However, women are playing a greater role in day-to-day decisions on the farm, and as landowners, play a major role in decisions on land stewardship. **But women have been and still are generally underserved by NRCS and other federal and state conservation agencies.** Their farms tend to be smaller, their markets are more often non-traditional, and they are less likely to be aware of and reached by federal farm agency staff than male farmers and landowners.

Wisconsin Women in Conservation (WiWiC) is a women-centered initiative that provides **a supportive space for landowners, farmers and aspiring farmers to connect, learn, and share knowledge in a peer-to-peer setting.** This project's core goals are to raise awareness of and access to federal conservation resources, provide technical assistance for conservation planning, and build local networks of women landowners/ farmers and professionals committed to land stewardship.

In 2024, WiWiC hosted 33 women-only, in-person events, including Learning Circles, field days, bus tours, and potlucks, as well as 9 online webinars, reaching nearly 1,6000 women in conservation. At these gatherings, women are able to connect and learn directly from each other, fostering practical skills and a deep sense of community. Through WiWiC, women receive free technical assistance in the form of conservation planning, and when ready, are connected with the Natural Resources Conservation Service (NRCS) for potential cost-share programs. So far this year nearly 75 women have received free Conservation Plans through WiWiC's technical support, helping them bring their visions of land stewardship to life.

We are grateful to our program partners, Marbleseed, Renewing the Countryside, and Wisconsin Farmers Union, who have made the success of this project possible.

What is a **CONSERVATION PLAN?**

A Conservation Plan is a way of capturing a landowner's vision and putting it in writing. Guided by resource concerns and conservation practices defined by the Natural Resources Conservation Service (NRCS), a conservation plan provides recommendations for how the landowner can implement their vision and what resources are available to help them. They are living documents that can be changed as the landowner's goals shift, and are available to reference and utilize at the landowner's will. Conservation plans are a great option for landowners/farmers who are looking to connect with resources, learn about their conservation options, and develop a manageable timeline for implementing practices.



Empowering URBAN AGRICULTURE

MILWAUKEE
URBAN AGRICULTURE
NETWORK

In the early 1990s, a passionate group at Michael Fields Agricultural Institute saw the need to **bridge rural-urban divides through sustainable farming**, sparking several years of hosting the Urban Rural Conference. Collaborating with many Milwaukee groups, MFAI celebrated efforts to form the Milwaukee Urban Agriculture Network (MUAN). After a quiet period, MUAN is back —reenergized, coordinated by MFAI, and ready to connect the broader community around a shared commitment to urban agriculture.

With funding support from USDA's Wisconsin Natural Resources Conservation Service, MUAN is connecting Milwaukee-area residents with education, resources, and networks that support urban agriculture and conservation. We even offer mini Exploratory Conservation Funding grants to Milwaukee County growers and organizations to implement conservation practices at a backyard or garden plot scale. Collaborating with organizations like UW Extension Milwaukee County's Urban Agriculture Program, Walnut Way Conservation Corp., the Urban Ecology Center, Growing Green Gardens, Victory Gardens Initiative, and others, MUAN is advancing efforts to **enhance soil health and conservation** —pillars of sustainable urban farming.

Through program workshops such as our Winter Growing Workshop with Larryville Gardens, and our virtual "FSA & NRCS Lunch & Learn," in collaboration with Walnut Way Conservation Corp., we've seen engagement soar, reflecting the robust interest in building a thriving urban agriculture movement in Milwaukee.

Now, two exciting new grants will allow MFAI to reach even more urban and underserved farmers. Through our partnership with the Milwaukee River Basin Conservation Partnership, we'll offer mentorship and technical assistance to community gardens, helping them adopt sustainable practices and connect to valuable federal resources.

A second grant focuses on **deepening relationships between farmers of color and USDA programs.** Through collaborations with Fondy Food Center, Chicago Bread Club, and Michigan Food & Farming Systems, this initiative will support the long-term sustainability of small farms through the cultivation of culturally relevant staple crops and specialized technical training.

The revival of MUAN, supported by these new partnerships, promises to foster growth, collaboration, and conservation in urban agriculture for years to come.

We invite you to join us. Whether you're a grower, community leader, or advocate for sustainable agriculture, there's a place for you. Together, we can strengthen urban agriculture and support the farmers who make our communities more resilient. Visit our website or contact us to learn how to join a workshop, volunteer, or financially support this vital work.





Growing Grains GROWING RELATIONSHIPS

Over the past two and a half years, our beginning farmer training, Midwest GRIT (Grains Resource & Immersive Training), partnered with 60 **small, diversified farmers** across seven states in the Upper Midwest, **exploring how organic, food-grade grains can positively impact their fields and farms.** With more than 40 virtual trainings and community-building sessions, field days, hands-on equipment training, and conference opportunities, we've developed relationships that will endure well beyond this project.

While the Midwest GRIT Program is now sunsetting, we remain committed to supporting this dedicated and expanding group of farmers growing staple crops for their communities through our other programmatic offerings, such as the Free Grants Advising Program, and educational resources.

We extend our heartfelt gratitude to our project partners—Artisan Grain Collaborative and UW-Madison OGRAIN— and program participants.



Protecting CLEAN WATER

This year, Michael Fields Agricultural Institute's policy team began developing a project aimed at addressing water quality in Wisconsin through an innovative Buy-Protect-Sell (BPS) model, using the **Clean Water State Revolving Fund (SRF)**. This approach focuses on **reducing phosphorus pollution**—a significant issue in Wisconsin's waterways—by **permanently conserving farmland** and implementing sustainable management practices.

Under the BPS model, **land trusts purchase farmland in areas with high pollution potential**, securing it with conservation easements that prevent development and ensure its long-term agricultural use. These easements are crafted to address soil health and water quality while allowing flexibility to adapt to evolving best practices. Once protected, the land is resold to beginning farmers at its agricultural value, **making land more accessible to the next generation of farmers**.

Municipalities, facing high costs to meet phosphorus discharge standards, can leverage SRF's zero or low-interest loans to fund these projects as a cost-effective alternative to costly infrastructure upgrades. This model allows municipalities to achieve necessary phosphorus reductions, while the conservation easements guarantee lasting environmental and community benefits.

By enabling municipalities, land trusts, and farmers to collaborate, the BPS model offers a comprehensive solution to water quality challenges. It not only provides environmental benefits but also strengthens rural communities, enhances food security, and promotes resilient farming practices across Wisconsin. Through this initiative, MFAI continues to drive impactful, community-centered solutions that **advance sustainable agriculture and safeguard natural resources for generations to come**.



News From THE CAPITAL

Well-managed grazing benefits farmers by reducing labor costs and lowering reliance on expensive inputs. This approach helps hold soil and nutrients in place, keeping waterways cleaner and healthier. **Grazing also captures carbon, which enriches soil health, retains water for times of drought, and limits costly infrastructure damage**—like to roads and bridges—during extreme rain events. In other words, it makes common sense!

Since 2020, MFAI has worked each year with the National Sustainable Agriculture Coalition (NSAC) and other partners to lead a **national campaign to restore funding for a bygone federal program that brilliantly supported grazing farmers in Wisconsin** and the nation from the late 1990s through 2008, when Congress eliminated its \$27.8 million in funding in a period of short-sighted budget-cutting. USDA's Grazing Lands Conservation Initiative (GLCI) helped many people become successful grass-based producers by funding technical assistance, educational programming, and grazing networks.

Of course, in 2020, COVID dominated all things congressional, but in 2021, we resumed work with groups and farmers nationwide to help restore GLCI funding. Led by Wisconsin's Senator Tammy Baldwin, GLCI received \$14 million in the Fiscal Years (FY) 2022 and 2023! Unfortunately, the 2023 debt ceiling deal resulted in cuts to domestic programs, including GLCI, resulting in only \$10 million in FY24. While the House zeroed out GLCI's funding this year, **thanks to grassroots support and the leadership of Senators Baldwin and Martin Heinrich of New Mexico, the FY25 Senate bill funds GLCI at \$20 million!** Since Congress deferred negotiations on the entire FY25 appropriations package until December 20, it remains to be seen whether Congress will defer a final vote until 2025 or pass a bill before the holidays.

Recognizing the importance of managed grazing for climate, water quality, and farm profitability reasons, for the last 18 months, The MFAI Policy Team has also joined forces with partners across the state to form a coalition decided to further advancing managed grazing. Our goal is to fill a critical gap in Wisconsin's advocacy network, **fostering greater engagement from the grazing community in shaping policy.** In preparation for the 2025-2027 state budget, we are developing a policy platform to present to the coalition in late November. The coalition and platform will be formally launched at the 2025 GrassWorks Conference.

The Farm Bill and Conservation

Despite 2023 being the original year planned to reauthorize the Farm Bill, agriculture's policy legislation, we find ourselves still without. For years, MFAI and partners across the country have worked to shape Farm Bill provisions that address farmers' practical needs, but the chances of seeing a new bill in 2024 appear slim. While some are holding out hope for action during the "lame duck" session after the election and before the New Year, it's unlikely.

What's gotten in the way? One significant roadblock centers around an issue MFAI cares a lot about: the fight between the Senate's determination to protect nearly \$20 billion in climate-smart conservation funding from the 2022 Inflation Reduction Act (IRA) and the House's determination to shift those funds to a subsidy that would almost exclusively serve just a few large-scale peanut, cotton, and rice farmers in the South.

We care because this **conservation funding from the IRA has proven highly beneficial for farmers in Wisconsin and nationwide, by boosting resources for programs like the Environmental Quality Incentive Program (EQIP) and the Conservation Stewardship Program (CSP)**, both of which have faced high demand and limited availability. Previous to this infusion of IRA funding, 75% of farmers' applications were denied due to lack of funding.

MFAI's Policy Director, Margaret Krome, underscores the urgent need to support USDA county staff who struggle mightily to meet the rising farmer enthusiasm for these programs. **MFAI will continue to advocate for higher funding for conservation technical assistance - the boots on the ground- that make NRCS programs so successful.**

Policy Informed By Farmers

The Uplands Watershed Group, one of many producer-led watershed groups in Wisconsin, is dedicated to improving water quality, soil health, and nutrient management. In addition to supporting environmental outcomes through practices like cover cropping and no-till farming, the group also provides valuable feedback to Michael Fields Agricultural Institute's policy experts, helping shape informed agricultural policy recommendations.

Alternative Crops **FOR CLIMATE RESILIENCE**

The MFAI Research Program is committed to **empowering farmers with the tools to diversify their crop rotations and strengthen resilience against coming economic and climate disruptions**. Through our field research, we provide practical recommendations for the production and post-harvest management of crops beyond corn and soy, helping farmers expand their options.

Today's dominant agricultural system fails to reward farmers fairly for their hard work and innovations, nor does it prioritize healthful food production for communities. **Farmers in the Midwest and beyond deserve a new paradigm—one that supports human and whole ecosystem health.**

In pursuit of this vision, the MFAI Research Program is fostering networks to establish production and processing chains for alternative crops, including perennials like Kernza(R), oats, buckwheat, industrial hemp, and millet.



Kernza^(R)

The movement to perennialize agriculture seeks to better **protect our surface and groundwaters, keep soil in place, store atmospheric carbon, and restore local ecosystems**. The first of its kind, Kernza is an exciting food crop perennial developed by The Land Institute in Minnesota from intermediate wheatgrass (*Thinopyrum intermedium*), a drought-hardy and cold hardy plant well-adapted to the northern U.S. and whose grain already had a good taste.

As part of the national KernzaCAP initiative, MFAI's Research Program is collaborating with six other Midwest region institutions to lead two Kernza projects focused on evaluating fertility management of Kernza over the course of a four-year trial to optimize grain yield, biomass/forage yield, and crop quality and to identify nitrogen, phosphorus, potassium, and sulfur fertilization recommendations for Kernza growers.

Our large collaborative trials also examine Kernza's impact on various soil health indicators, comparing it with "business as usual" conventional corn-soy rotations. We're measuring factors like soil aggregate stability, organic matter, microbial community diversity, and soil water infiltration using rainfall simulations. So far, Kernza shows notably higher water

infiltration and reduced runoff compared to corn-soy systems—a promising finding for water and soil conservation.

Our work thus far has found that **Kernza allows for significantly greater water infiltration and less runoff** compared to corn-soybean systems, a finding with implications for water and soil conservation. In terms of fertility, year 2 observations suggest that fertilizing Kernza with 80 lb N/acre + 50 lb P₂O₅/acre + 150 lb K₂O/acre + 115 lb CaSO₄/acre resulted in a 24% increase in grain yield compared to NPK without CaSO₄, and a 50% increase in grain yield compared with fertilizing with N alone.

A special thank you to Mr. Whilden Hughes of Hughes Farms in Janesville, WI, for his collaboration on this trial and for his expertise in treatment design and implementation.

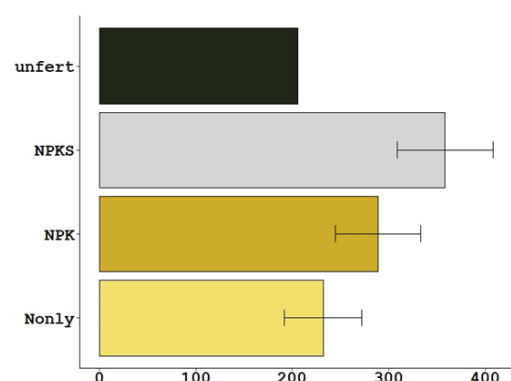


Figure X. Grain yields (kg/ha) of Kernza harvested from the Hughes Farm trial in August 2023. Unfert = nonfertilized control; Nonly = 80 lb N/acre spring; NPK = 80 lb N/acre in spring, and 50 lb P₂O₅ and 150 lb K₂O/acre in fall; NPKS = 80 lb N/acre plus 115 lb CaSO₄ in spring, and 50 lb P₂O₅ and 150 lb K₂O/acre in fall. Error bars depict standard error of the mean.

A large barrier to Kernza adoption is the market, i.e., sales of Kernza food products are insufficient nationwide to grow acreage. To contribute to market building, we developed our own Michael Fields Kernza Flour and Pancake Mix products, all produced in East Troy. Thus far in 2024 we have sold over 600 lb of Kernza flour! Go to michaelfields.org/shop to see our product offerings.

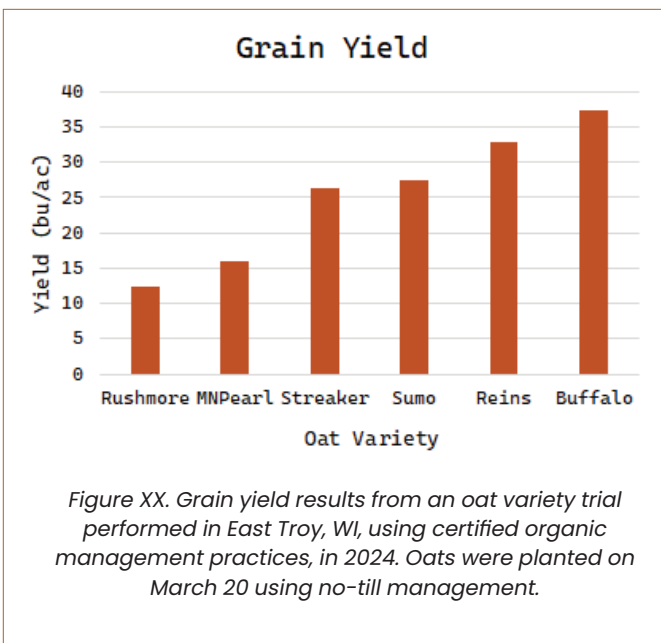
Oats

Historically, oats played an important role in crop rotations in the Upper Midwest. However, they've been largely displaced by corn and soybeans and relegated to low-profit feed grade markets. Yet, this region has the capacity to grow high-quality oats. **With more modern, science-based optimum management information, producers could reintroduce oats as a profitable food-grade crop that diversifies rotations.**

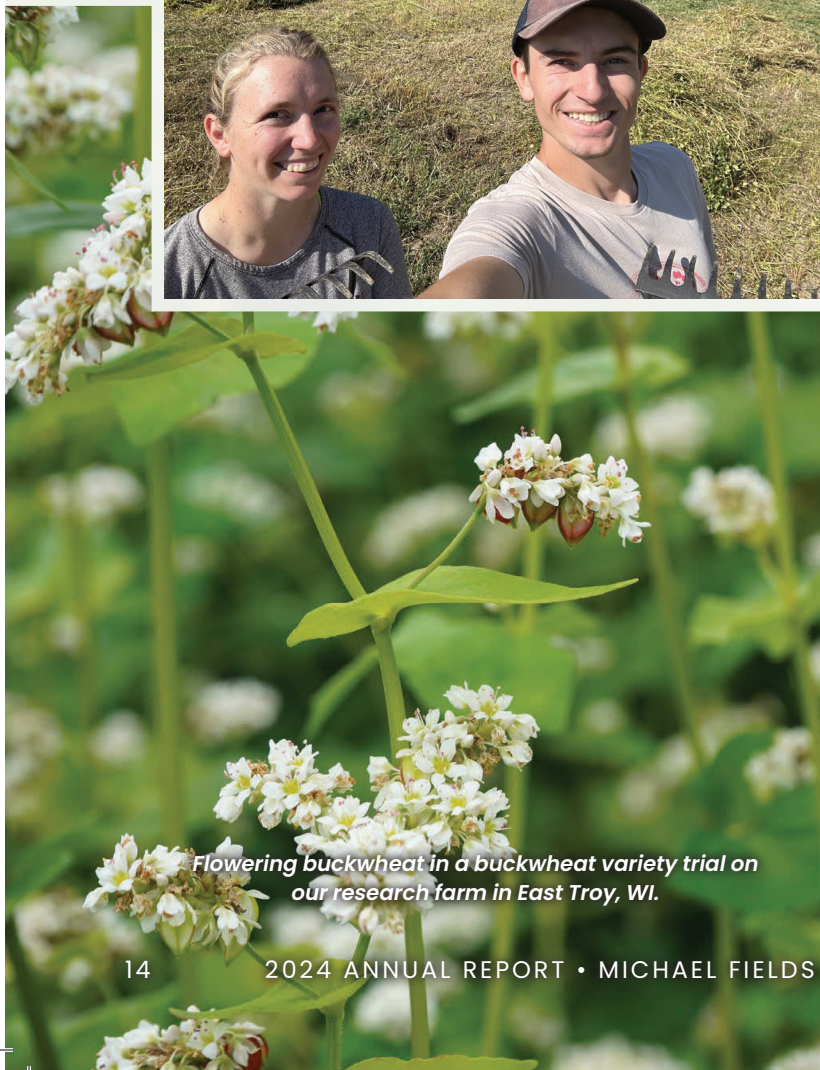
As part of our gluten-free grains initiative, the Research Program is working to advance oats' potential by **a) evaluate the potential of no-till establishment** to enable early planting of oats, to raise grain test weight; **b) perform a variety trial of regionally available oat varieties** to evaluate the cultivars with the best traits for organic systems; and **c) to evaluate management practices** that affect grain quality indicators, like test weight and groat size. Early findings indicate that no-till management has potential for organic oat production with varieties that can emerge early and display inherent superior competitiveness with weeds, such as 'SD Buffalo' and 'Reins', the top two highest-yielding varieties in our field trial (Figure XX). We are currently performing analysis of test weights and other quality indicators to evaluate varietal variation and potential for production of high-quality grain. Like many farmers do, we relied on "residual fertility" following corn but noticed that the nitrogen fertility was insufficient for maximizing oat yield potential, and our oat yields were consequently relatively low.; Future trials will focus on optimizing organic fertilizer inputs to maximize grain production potential.



Oat variety trial on our research farm in East Troy, WI.



Nicole and Nolan swath buckwheat to prepare for combining in October 2024.



Flowering buckwheat in a buckwheat variety trial on our research farm in East Troy, WI.

Buckwheat

Buckwheat is a gluten free grain with historical importance as a staple grain around the world and is adapted to growing conditions in the Upper Midwest. However, **buckwheat production and processing is controlled by just two companies in the United States**, and very few public research programs have worked with buckwheat despite its importance to farmers as a rotational crop that aids with weed competition and soil nutrient cycling. **In 2024, MFAI's Research Program conducted what is likely the first buckwheat variety trial ever performed in Wisconsin.** We also performed milling and taste/culinary evaluations of the different buckwheat varieties currently available to identify the top buckwheat varieties that should be targeted for further development for local food grade production of buckwheat grain.

Industrial Hemp

With the 2018 Farm Bill allowing Industrial Hemp, MFAI was the first organization in the state to work on Hemp Research. The program started out with growing 45 cultivars of CBD Hemp – autos, clones and transplants – in three replications, and tested at 3, 5 and 7 weeks to monitor the CBD and THC levels to help growers know the right time for testing for THC when growing those varieties. The crop data was analyzed and was fed into the Midwest Hemp Database, a collaborative effort between MFAI and four land grant Universities in the Midwest.

Currently, under the same research collaboration, MFAI Research Program is conducting a replicated research trial for finding the best dates of planting for fiber hemp in the Midwest to produce the highest biomass yields using two varieties – NWG 4113 (early) and IH Williams (Midlate). The results of these experiments will also go into the Midwest Hemp Database for Grain and Fiber.



Participatory Research THE WI COVER CROP DATA NETWORK PROJECT

Since 2020 the Wisconsin Cover Crop Data Network has addressed the need for locally relevant information on **cover cropping as a key strategy to build soil health and protect water quality**. Partnering with the Soil Health Alliance for Research and Education and The Nature Conservancy this project **centers farmers as leaders** as they experiment and fine-tune cover cropping to fit Wisconsin's diverse farm systems and geography. Over the five seasons of the project we've had over 100 farmers from over 35 counties around the state annually sharing cover crop management protocols along with fall and spring cover crop samples. We send those samples for analysis of cover crop biomass, forage quality, and nutrient content and then share the results back to participants.

As a participatory project, research lead Mriil Ingram explains, we emphasize outreach around the data as much as gathering it. We aggregate the agronomic data and make it publicly available via a data dashboard **with graphs and an interactive map**. The roll-over map provides snapshots of farmer practices and results, allowing farmers and others to learn more about how neighboring farmers use cover crops and creatively adapt to changing growing conditions around the state. We aim to provide real-world details on farmer cover crop practices and results. Interested researchers and educators can also download anonymized data for their own work. The quantitative and qualitative data can support policy initiatives and inform tools like SnapPlus, providing practical recommendations tailored to Wisconsin's varied farm systems, soil types, and microclimates. For the 2024-5 season, for the third year in a row the project reached its limit of 60 cover cropped fields, with 58 farmers, and a repeat farmer participation rate of 79%.

Support REGENERATIVE AGRICULTURE IN THE UPPER MIDWEST

With your support, Michael Fields Agricultural Institute is driving sustainable change in the Midwest, bringing innovative solutions to the forefront of agriculture. Our programs empower farmers while protecting natural resources – building resilient food systems that benefit everyone. Your contributions help support:

Underserved Farmers:

We connect underserved farmers with resources, mentorship, and policy advocacy to support their success and resilience in agriculture.

Promoting

Regenerative Practices:

Advancing practices that enhance soil health, water quality, and biodiversity, helping farmers build climate-smart, regenerative systems.

Strengthening Farm Communities:

Building thriving rural and urban farm communities that contribute to local economies throughout the Upper Midwest.

**Contribute now by returning the enclosed envelope,
scanning the QR code, or by visiting michaelfields.org**



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